

Anxiety and Depression among Students of a Medical College in Saudi Arabia

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Abstract:

Objective : To assess prevalence of anxiety and depression among medical students in a medical college of Saudi Arabia.

Methods : A cross-sectional study was done on premedical, 1st, 2nd & 3rd year students of College of Medicine, Qassim University. The instrument used to assess the anxiety and depression was Self administered questionnaire, The Aga Khan University Anxiety and Depression Scale (AKUADS). AKUADS is a screening tool, and at a cut off point of 19, it has a Specificity of 81%, Sensitivity of 74%, a Positive Predictive Value of 63% and Negative Predictive Value of 88%. Data analysis was done on Epi Info version 6.

Results : At the time of the study there were a total of 288 male students and 105 female students enrolled in the college. The overall response rate among the males and females were 68.7% and 99.0% respectively. Overall the prevalence of anxiety and depression in females were 66.6% and males 44.4% (p-value 0.01). In the 1st year the prevalence in females were 89.7% and males 60% (P-Value = 0.006). No suicidal ideation was reported by either males or females.

Conclusion : Almost similar level of anxiety and depression was found in another study using the same instrument in a similar curriculum model medical college in Pakistan. Our findings are also consistent with the findings from other studies from western medical schools as well as other Asian and African medical schools using different screening tools.

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Introduction

Depression and anxiety levels in the community are considered as important indicators for mental health. Several studies have documented stress among medical students ranging from 12% to 73%.⁽¹⁻¹⁴⁾ A cross-sectional study done by the author on 189 medical students in a Pakistani medical college with a problem based integrated community-oriented curriculum revealed an overall prevalence rate of 60% with 2nd year students having a prevalence of 73%.⁽¹³⁾ A study from Zimbabwe conducted on 1st year students after 7 months entry in the medical school found 64.5% of students had various levels of stress including depression.⁽¹⁵⁾ Study from United Arab Emirates University, Al-Ain also reported 65% prevalence of stress among medical students.⁽⁹⁾ A study⁽⁶⁾ was done on 140 Hong Kong Chinese students in the second year of their medical education and compared with 138 students surveyed prior to beginning their first year of medical school and with 74 non-medical university students in their second year found that in medical students distress as reflected in their scores on anxiety and depression self-report scales was high, and these students reported greater utilization of health professional services as compared with the other two groups. The study also showed that there was no difference between the sexes with regard to the development of anxiety and depression symptoms. Another study⁽¹¹⁾ to determine incidence of stress and factors controlling stress in medical students at various stages of MBBS course was done on 238 students (First year 98, Second 76, Third 64). The study showed that 73% of medical students perceived stress, and stress was found to be significantly more in Second and Third MBBS students rather than First MBBS levels. The study did not show any significant gender difference in students with stress.

In a prospective study⁽¹⁶⁾, all first-year undergraduate students of one medical school were given a detailed, self-report questionnaire and another in the second year. They were asked to complete the General Health Questionnaire (GHQ), the Spielberger State-Trait Anxiety Inventory (STAI) and the Beck Depression Inventory (BDI). The results showed that psychological test scores on the GHQ, the STAI and the BDI rose significantly in medical students between the first and second years.

Another prospective study⁽¹⁷⁾ was done on 304 first- and second-year medical students assessed for depression with a monthly Beck Depression Inventory (BDI). Students scoring above nine on the BDI and a control group were then interviewed with the NIMH Diagnostic Interview Schedule. The study found that the incidence of major depression or probable major depression by DSM-III criteria during the first two years of medical school was 12%. The lifetime prevalence was 15%, three times greater than the rate in the general population.

The purpose of this study is to find the prevalence of anxiety and depression among students of College of Medicine, Al Qaseem University, Saudi Arabia.

Methodology

Site: The study site is the College of Medicine, Al-Qaseem University. This College is the first medical college in the Kingdom of Saudi Arabia to introduce community-oriented medical education with an integrated system and a problem based learning approach. It has a five year medical curriculum with an additional one year of premedical. At the time of the study there were 105 female students and 288 male students.

Study design: It is a cross-sectional study using a self-administered questionnaire. The filling of questionnaire was voluntary and was administered to all students present in the class. Those who were absent were followed twice.

Data collection instrument: The instrument used for screening for anxiety and depression is the Aga Khan University Anxiety and Depression Scale (AKUADS). It has been validated on a statistically appropriate sample size, in urban squatter settlement of Karachi.⁽¹⁸⁾ It was developed from the complaints of 150 anxious and depressed patients. The questionnaire has 25 items, 13 psychological and 12 somatic, which increases its reliability for use as a screening instrument because most of the available instruments comprise of either psychological or somatic items. At a cut off score of 19 points AKUADS has specificity of 81%, sensitivity of 74%, a positive predictive value of 63%, and negative predictive value of 88%.⁽¹⁸⁾

Data Analysis: The data was entered and analyzed using Epi info version 6.0. Frequency tables were generated and Chi Square test of significance was applied on the results obtained.

Results

The response rate among the females were 27/28(96.4%), 29/29 (100%), 29/29 (100%) and 19/19 (100%) in the premedical, first, second and third years respectively. The response rate among the males were 49/84 (58.3%), 40/71 (56.3%), 57/77 (74.0%) and 52/56 (92.8%) in the premedical, first, second and third years respectively. The overall response rate among females and males were 99.0% and 68.7% respectively. Overall the prevalence of anxiety and depression in the females is higher (60.6%) than the males (44.4%), P-value <0.01 (see Fig. 1). No suicidal ideation was found in any response from both males and females.

Difference in the rate of anxiety and between male and female students were significant only in the 1st year (89.7%) among female versus 60% male ($p= 0.014$). First year females were 5.8 times more likely to have anxiety and depression than 1st year males (95% CI = 1.3, 28.7). In all other years, differences between male and female students were not significant. In both genders, the highest prevalence was in the 1st year (as described above, followed by pre-medical, 3rd year and 2nd year respectively see Table (1).

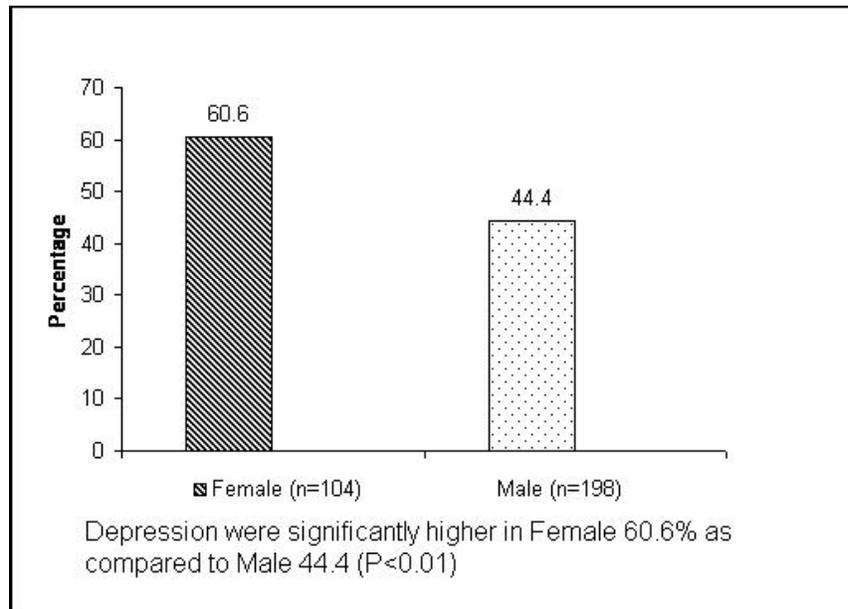


Fig. (1). Depression according to Gender.

Table (1). Depression according to Gender and Year.

Students	Female		Male		P-Value
	No.	Depressed	No.	Depressed	
Pre Medical	27	17 (63.0%)	49	20 (40.8%)	0.064
1st Year	29	26 (89.7%)	40	24 (60.0%)	0.006
2 nd Year	29	7 (24.1%)	57	18 (31.6%)	0.472
3rd Year	19	13 (68.4%)	52	26 (50.0%)	0.167

Depression were significantly higher in 1st year female students (89.7 %) as compared to 1st year male students (60 %), P= 0.006

The difference in prevalence rates of anxiety and depression between “years” were significant in both females (p<0.001) and males (p=0.03). However, no year-related trend was detected in the data and chi square test for trend analysis was non-conclusive (see Fig 2). Depression was significantly higher in Female 60.6% as compared to Male 44.4 P<0.01

Discussion & Conclusion

The prevalence rates while higher among females vary by year although no set pattern was identified. Students of both genders were found to be most depressed in their 1st year, followed by 3rd year, pre-medical and 2nd year.

Anxiety and depression can be taken as a reliable indicator for assessment of mental illness in the community. (13) The choice of using AKUADS for screening was because it has been used in similar settings and that it is validated in a society with Islamic cultural values. Several

studies have reported distress among medical students (1-14,19-21), while some studies have found little or no evidence of stress among medical students (22,23). However, as early as 1956, concern has been shown for emotional status of students during their medical training. (24) In our study the prevalence of anxiety and depression in female students is 60.6% and in males is 44.4% which is high but consistent with other western studies as well as studies from Pakistan, India, Zimbabwe and United Arab Emirates.

In this our study high prevalence in 1st year students may be explained by the introduction of taking more responsibility for their learning and a shift from the traditional spoon feeding teaching methodology. The drop of prevalence rate in 2nd year may support the above hypothesis since by then the students get used to the system. Higher levels of stress in females is also reported in western literature. (1,3) This study also shows higher levels of anxiety and depression among females, while similar study using the same screening tool did not find significant gender difference in the levels of anxiety and depression.

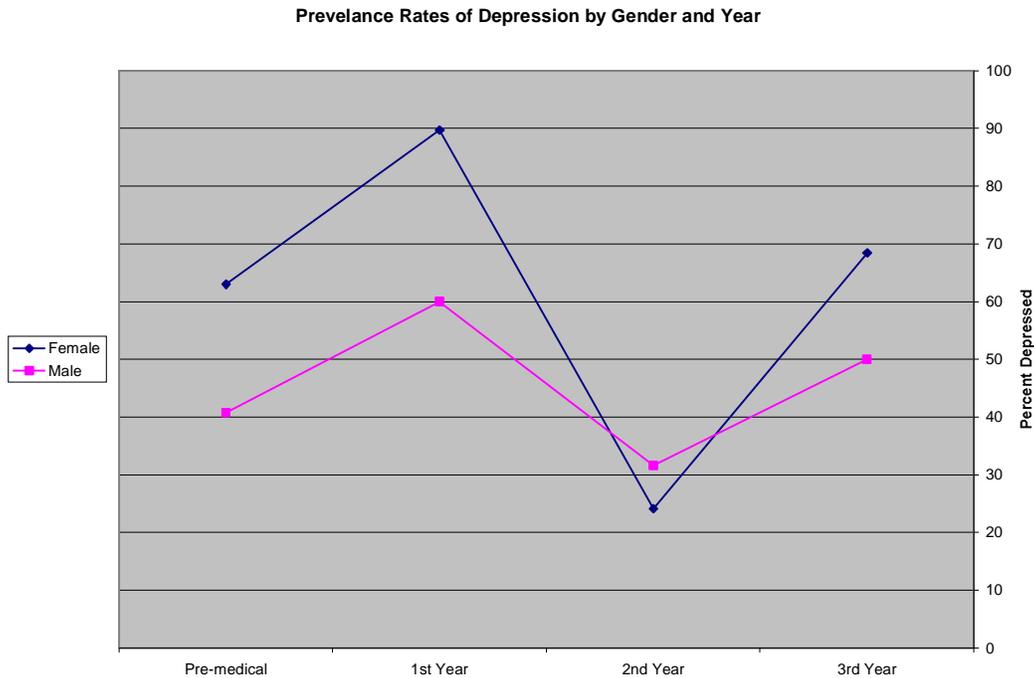


Fig. (2). Depression levels according to gender and year of study.

⁽¹³⁾ The possible reasons given by different studies are (a) females are more complaining about the volume and complexity of the material they had to cover, (b) they are more likely to report stress ⁽¹⁾, (c) tendency of females to over report medical and psychological symptoms. ⁽²²⁾ Nonetheless male bias towards female complaints cannot be ruled out. However, in our study, since the questionnaire was self-administered and anonymous, therefore, further workup could not be carried out to tease out the factors related to higher reported levels of anxiety and depression in females. Studies have also reported suicidal ideation among medical students. A nation-wide prospective study from Norway ⁽²⁵⁾ revealed prevalence of suicidal thoughts in 14%. The life time prevalence was 43%, 8% had planned suicide and 1.4% attempted suicide. None of the respondents in our study expressed suicidal ideation. This may be explained by the prohibition of suicide and suicidal ideation by Quran or Islamic cultural values which may have had an inhibitory effect on reporting suicidal ideation.

Various studies have reported substance abuse and alcoholism among medical students and junior doctors under stress. ^(12, 26) Such behaviour cannot be ruled out in the medical community as access to drugs is relatively easier. This study did not explore substance abuse. Medical school curricula are demanding, extensive and require high levels of competencies. Evaluation of academic performance through continuous assessment and examinations are reported to be academic stressors. ⁽²⁷⁾ In light of the published literature, the prevalence of anxiety and depression in this study is high but consistent with other studies. Implications of stress including anxiety and depression are of serious concern resulting in inability to cope with curricular demands and deviant behaviour, impairment of functioning in classroom performance and clinical practice. ⁽²⁸⁾

Preparing medical students for life as doctors require more than acquisition of knowledge and skills. ⁽²⁷⁾ Constant monitoring of performance, professional conduct and behaviour associated with mental health is equally important. Although, the subject is of prime importance but unfortunately literature search done by Shapiro yielded over 600 articles discussing the importance of addressing the stress of medical education, only 24 studies reported intervention programs, and only 6 of

those used rigorous scientific method. ⁽²⁹⁾ Therefore, it is important that medical educationists in Saudi Arabia conduct further studies to find the prevalence of anxiety and depression in other medical colleges, as well as, other disciplines offering graduate programs, identify the stressors and address the problem by instituting appropriate measures.

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